

PROJECT NUMBER : 1101  
PROJECT TITLE : Entomological Research  
PROJECT LEADER : D. L. Faustini  
PERIOD COVERED : February, 1991

## **I. CIGARETTE BEETLE (CB) CONTROL PROGRAM**

- A. **Objectives:** (1) To determine if phosphine resistance is occurring in the feral CB, (2) to determine if physiological differences are present in laboratory and field colonies regarding methoprene, and (3) investigate alternatives to conventional tobacco pesticides.
- B. **Results:** A bioassay has been initiated using F<sub>2</sub> larvae collected from Kenbridge and Kabat® feral cultures to determine if methoprene physiological differences exist (1). A second bioassay has been initiated to determine if Nylar® could show physiological differences in the local Kabat®-feral CBs. Nylar® is an insect growth regulator with a different chemical structure from Kabat® (2). Laboratory reared CBs are being used as controls in both studies.
- C. **Plans:** Complete bioassays (1) showing effects of methoprene concentrations on two types of feral CBs, and (2) determine the effects of Nylar® on CBs previously exposed to Kabat®.
- D. **References:**
1. Minor, M. F. Notebook No. 9024, pp. 15-17.
  2. Minor, M. F. Notebook No. 9024, pp. 22-23.

## **II. SERVICE TO OTHERS**

- A. **Objective:** Provide technical services to areas outside R&D.
- B. **Results:** At the request of Engineering Department personnel, two tests were run to determine CB kill and temperature profiles using the Datatrace® temperature monitoring units in the oriental moisturizing cylinder (OMC) at the RLPPF. One hundred percent mortality was observed for all life stages of the insect (1).
- C. **Plans:** Issue memo detailing results.
- D. **Reference:**
- Lehman, R. M. Notebook No. 9014, pp. 34-39.